WHAT IS CLAIMED IS:

1. A method of protecting a primate against HIV-1 infection comprising intranasal or intramuscular administration to said primate of an intranasal or intramuscular dosage of a recombinant adenovirus having a deletion in the E3 gene and an expression cassette containing a major late promoter, a tripartite leader sequence, part or all of the HIV-1 gp160 sequence and a polyadenylation signal sequence, said cassette being inserted into said recombinant adenovirus between the E4 promoter and the inverted terminal repeat of said recombinant adenovirus.

2. The method of claim 1 wherein said intranasal or intramuscular administration of recombinant adenovirus is followed by one or more intranasal or intramuscluar booster administrations of said recombinant adenovirus.

3. The method of claim 2 wherein said adenovirus is a serotype 4, 5 or 7 serotype adenovirus.

4. The method of claim 3 wherein said expression cassette additionally comprises part of all of the coding sequence for the HIV-1 rev gene inserted in frame after the HIV-1 gp160 sequence and before the polyadenylation signal sequence.

5. The method of claim 4 wherein said HIV-1 gp160 sequence is the MN strain gp160 sequence or the LAV strain gp160 sequence.

6. The method of claim 4 wherein said HIV-1 gp160 sequence is replaced by a sequence encoding the gag-pro region of HIV-1.

7. The method of claim 2 wherein said one or more intranasal or intramuscular booster administrations of said adenovirus are followed by an intramuscular injection of at least one booster immunization with an HIV-1 subunit antigen preparation.

8. The method of claim 7 wherein said HIV-1 subunit antigen preparation contains an HIV-1 gag and/or env polypeptide sequence.

9. The method of claim 1 wherein said intranasal dosage administered is in the

range of 1 x 10^7 pfu of virus.

10. The method of claim 1 wherein said intramuscular dosage administered is in the range of 1 x 10^7 to 2 x 10^9 pfu of virus.

11. The method of claim 9 wherein said intranasal booster is administered in a dosage in the range of 1 x 10^7 to 1 x 10^8 pfu of virus.

12. The method of claim 10 wherein said intramuscular booster is administered in a dosage in the range of 1 x 10^{10} to 8 x 10^{10} pfu of virus.

13. The method of claim 8 wherein said subunit antigen preparation contains between 200 µg and 0.5 mg of HIV-1 polypeptide.

14. A method of protecting a primate against HIV-1 infection comprising the steps of (i) intranasal or intramuscular administration to said primate of an intranasal or intramuscular dosage of a recombinant adenovirus serotype 4, 5 or 7 having a deletion in the E3 gene and an expression cassette containing a major late promoter, a tripartite leader sequence, part or all of the HIV-1 gp160 sequence, part of all of the coding sequence for the HIV-1 rev gene inserted in frame after the HIV-1 gp160 sequence and a polyadenylation signal sequence, said cassette being inserted into said recombinant adenovirus between the E4 promoter and the inverted terminal repeat of said recombinant adenovirus; and (ii), followed by one or more intranasal or intramuscular booster administrations of said recombinant adenovirus.

15. The method of claim 14 wherein said primate is a human.

16. The method of claim 15 wherein said HIV-1 gp160 sequence is replaced by a sequence encoding the gag-pro region of HIV-1.